



EPA Region 5 Records Ctr.



258539

March 10, 2005

Mr. Nabil S. Fayoumi
U. S. EPA - Region 5
77 West Jackson Boulevard (SR-6J)
Chicago, Illinois 60604-3590

**Re: Sauget Area 2 Site – October 3, 2002 Unilateral Administrative Order (UAO) Groundwater Operable Unit
Monthly Report; February 1 - February 28, 2005 Reporting Period**

Dear Nabil:

Attached is the Monthly Report for the Sauget Area 2 Site October 3, 2002 Unilateral Administrative Order (UAO) - Groundwater Operable Unit. This submittal is in fulfillment of the monthly reporting requirements of the UAO, Section XII, paragraph 62, Progress Reports. This report is for the period February 1 – February 28, 2005.

Sincerely,

Bruce S. Yare, for

Steven D. Smith
Project Coordinator

cc: Ken Bardo, - U. S. EPA
Mayor Sauget - Sauget, IL
Sandra Bron – IEPA
Mike Coffey - USFWS
Village of Sauget – c/o P. H. Weis & Associates (Attn: Brian Nelson)
Mayor Frank Bergman – Cahokia
L. Glen Kurowski - Monsanto
Cathleen Bumb – Solutia
Linda Tape - Husch & Eppenberger
Richard Williams – Solutia

Sauget Area 2 Site - Sauget, Illinois

October 3, 2002 UAO – Groundwater Operable Unit

Status Report

Date of Report: March 10, 2005
Period Covered: February 1 - February 28, 2005

Agency Actions / Communications

In an e-mail message dated June 19, 2003, U. S. EPA requested the submission of revised versions of the Focused Feasibility Study, the Remedial Design Work Plan, and the Pre-Final (95%) Remedial Design. The revisions were required to allow the use of a slurry wall rather than jet grouting for construction of the barrier wall. The revised documents were submitted on July 3, 2003. The ESD was issued by US EPA on July 30, 2003. The Final Design Submittals were approved by EPA on October 16, 2003.

Work Performed During the Reporting Period

Slurry Wall

- Stabilization of the spoil on the top of the Site R landfill by the addition of cement resumed in February and continued throughout the month. All of the spoil in the stockpile was stabilized and graded by the end of the month and stabilization of the slurry stored adjacent to the stockpile began at the end of the month.
- Site cleanup and rough grading continued in the central portion of the site until February 17, 2005. At that time, the Agency expressed concern that spreading the spoil in this location was contrary to the approved design and no change to that design had been approved by the Agency. Consequently work in this area of the site was stopped immediately, pending further discussion with U. S. EPA. A teleconference was held on February 22nd to discuss the Agency's concerns and it was agreed that a Technical Memorandum would be prepared that contained proposals for the characterization and management of the spoils in the area between the western toe of the Site R landfill and the slurry wall. That memorandum was submitted to the Agencies on February 25th. Review comments with suggested revisions to the characterization program were received from the U. S. EPA oversight contractor, CH2M Hill, on February 28th and the

revisions were accepted and incorporated into the proposed sampling and analysis plan during a teleconference the following day (March 1st).

- Inquip remobilized the necessary crews and equipment and completed the slurry wall cap on February 1st.

Groundwater Treatment

A report summarizing the piezometer maintenance and replacement activities completed during the month of October was submitted to the Agencies on November 9, 2004. That report also contained recommendations for future operation of the groundwater extraction system. The contents of the report were summarized at a meeting held at the site on November 16th. The report provided recommendations for maintenance activities and for future operation of the groundwater extraction system. It was proposed that the system be operated for 90 days, during which time, the median groundwater level inside the wall would be kept below, or at the same level as, the river. This would allow time to optimize the control algorithm to account for the effects of the wall. At the end of the 90 day period, a report would be submitted to the agencies. That report would contain a review all of the piezometric responses measured during the 90 day period and would evaluate whether groundwater discharge to the river can be controlled by use of median groundwater levels.

- After EPA reviewed the report , it requested that the system be operated for the proposed 90 day period in such a way that the inside piezometric level at each piezometer pair is equal to, or less than, the level in the corresponding outside member of the pair.
- For the entire month, the system was operated in this way. The water level in the inside member of piezometer pair PZ -2 exceeded the water level in the outside member for the first 6 days of the month (until February 6th). However, the pumps were shut off for all, or a portion, of 3 of those days (February 2nd, 3rd, and 4th) to install new remotely actuated valves in the discharge pipes of the wells. With the exception of these 3 days, an inward gradient was maintained across the northern and southern arms of the barrier wall, at piezometer pairs PZ-1 and PZ-4, at all times, demonstrating that groundwater discharge was under control for all but 3 days of the month.
- The system controller was reprogrammed to automatically control the flow rates of the individual pumps on the basis of the head differential between the inside and outside members of individual piezometer pairs. Extraction well EW-1 was set to respond to the smaller of the head differentials across piezometer pairs PZ-1 and PZ-2, while well EW-2 was programmed to respond to the smaller of the head differentials across the PZ-2 and PZ-3 pairs. Well EW-4 was set to respond to the smaller of the head differences across the PZ-3 and PZ-4 pairs.

- Daily average pumping data for each well are attached, together with the daily average piezometric levels.

Schedule

A new construction schedule was submitted in April showing backfill completion by the middle of November. This schedule was satisfied.

Submittals During Reporting Period

There were no submittals to the Agency during the reporting period.

Work Scheduled for Next Reporting Period

- Continue pumping and treating groundwater based on piezometric levels. Flow rates will be controlled such that the water level in each of the piezometers inside the barrier wall is less than, or equal to, the water level in the corresponding piezometer outside the wall.
- Prepare and submit a report on the results of the 90 day trial pumping period, with recommendations for any changes to the ROD criteria that might be appropriate.
- Characterize the spoils stockpiled in the lower portion of the site between the toe of the landfill and the slurry wall.
- Continue final site cleanup.
- Complete solidifying excess slurry in the containment cell on top of Site R.

PUMPING DATA

AVERAGE DAILY FLOW RATES AND PIEZOMETRIC LEVELS DURING FEBRUARY 2005
SAUGET AREA 2 GMCS

Date/Time		PUMPING RATE				SWL	GROUNDWATER LEVEL (OUTSIDE) COMPARED TO GROUNDWATER LEVEL (INSIDE)											
		Total Q	EW-1 Q	EW-2 Q	EW-3 Q		PZ-1_OUTSI			PZ-2_OUTSI			PZ-3_OUTSI			PZ-4_OUTSI		
							DE	1_INSIDE	Delta	DE	2_INSIDE	Delta	DE	3_INSIDE	Delta	DE	4_INSIDE	Delta
2/1/05	Daily Average	1480.95	320.91	743.03	417.01	390.95	391.72	389.36	-2.36	389.82	390.36	0.55	390.01	388.93	-1.08	391.26	390.32	-0.94
2/2/05	Daily Average	594.06	200.00	246.16	147.90	390.19	391.34	390.12	-1.23	389.25	391.67	2.42	389.55	390.81	1.26	390.96	391.65	0.69
2/3/05	Daily Average	0.00	0.00	0.00	0.00	389.55	391.15	392.28	1.13	388.74	393.67	4.93	389.18	376.39	3.57	390.82	393.24	2.42
2/4/05	Daily Average	917.74	324.47	320.60	272.67	389.27	390.84	390.33	-0.52	388.46	391.90	3.44	388.82	390.94	2.12	390.60	391.91	1.31
2/5/05	Daily Average	1956.04	750.01	738.46	467.57	389.00	390.41	386.45	-3.97	388.12	388.59	0.47	388.44	388.05	-0.38	390.21	389.62	-0.59
2/6/05	Daily Average	1892.64	749.64	736.20	406.80	389.08	390.34	386.16	-4.18	388.23	388.33	0.10	388.50	388.05	-0.45	390.17	389.66	-0.51
2/7/05	Daily Average	1681.50	668.68	666.40	346.43	389.63	390.58	386.48	-4.10	388.71	388.61	-0.10	388.93	388.32	-0.61	390.40	389.82	-0.58
2/8/05	Daily Average	1174.17	461.09	461.15	251.93	391.27	391.45	387.93	-3.52	390.18	389.81	-0.37	390.35	389.39	-0.95	391.25	390.58	-0.67
2/9/05	Daily Average	1116.35	434.84	434.83	246.68	391.65	391.72	388.34	-3.38	390.55	390.12	-0.43	390.71	389.69	-1.02	391.51	390.85	-0.66
2/10/05	Daily Average	875.78	338.61	338.73	198.44	392.49	392.13	389.00	-3.13	391.27	390.70	-0.57	391.38	390.20	-1.18	391.93	391.18	-0.75
2/11/05	Daily Average	642.38	246.40	241.89	154.09	393.61	392.87	390.03	-2.84	392.30	391.65	-0.65	392.38	391.11	-1.27	392.66	391.90	-0.77
2/12/05	Daily Average	776.88	296.02	296.13	184.73	393.60	392.97	390.05	-2.91	392.27	391.67	-0.60	392.38	391.14	-1.24	392.78	392.02	-0.76
2/13/05	Daily Average	772.47	295.44	303.91	173.12	393.75	393.04	390.05	-2.99	392.33	391.72	-0.61	392.42	391.21	-1.20	392.86	392.05	-0.81
2/14/05	Daily Average	44.52	12.19	16.50	15.83	397.57	395.17	392.30	-2.88	395.81	393.67	-2.14	395.71	393.15	-2.56	394.89	393.55	-1.34
2/15/05	Daily Average	12.80	6.48	6.47	-0.15	401.59	397.70	393.20	-4.49	399.62	394.53	-5.09	399.23	394.33	-4.89	397.35	394.68	-2.67
2/16/05	Daily Average	12.88	6.96	6.17	-0.25	403.72	399.13	393.75	-5.38	401.65	395.03	-6.62	401.12	394.96	-6.16	398.73	395.29	-3.44
2/17/05	Daily Average	-10.59	-13.96	4.77	-1.40	403.60	399.31	394.25	-5.06	401.58	395.53	-6.04	401.10	395.40	-5.70	398.89	395.76	-3.13
2/18/05	Daily Average	13.06	7.21	6.10	-0.25	402.58	398.88	394.55	-4.33	400.66	395.83	-4.83	400.29	395.63	-4.66	398.54	396.10	-2.44
2/19/05	Daily Average	12.76	7.09	5.98	-0.30	401.83	398.66	394.85	-3.82	400.00	396.11	-3.89	399.74	395.88	-3.87	398.30	396.45	-1.85
2/20/05	Daily Average	12.73	6.88	6.04	-0.19	400.72	398.20	395.17	-3.02	399.00	396.47	-2.54	398.88	396.11	-2.77	397.90	396.61	-1.30
2/21/05	Daily Average	55.10	12.78	13.76	28.56	399.27	397.39	395.02	-2.37	397.72	396.33	-1.38	397.68	395.80	-1.88	397.17	396.28	-0.90
2/22/05	Daily Average	400.42	120.28	149.36	130.77	397.80	396.49	394.11	-2.38	396.30	395.46	-0.84	394.60	394.75	0.15	396.27	395.39	-0.88
2/23/05	Daily Average	544.13	183.06	209.89	151.18	397.18	396.12	393.57	-2.55	395.72	394.94	-0.78	395.72	394.25	-1.47	395.89	395.03	-0.86
2/24/05	Daily Average	820.87	301.10	321.38	198.39	396.13	395.44	392.61	-2.83	394.74	394.15	-0.58	394.61	393.60	-1.01	395.25	394.46	-0.78
2/25/05	Daily Average	1116.34	433.51	443.01	239.83	394.76	394.53	391.29	-3.24	393.43	393.03	-0.40	393.30	392.56	-0.74	394.36	393.65	-0.71
2/26/05	Daily Average	1326.68	521.86	526.28	278.54	393.65	393.71	390.15	-3.56	392.33	392.03	-0.30	392.39	391.65	-0.73	393.55	392.92	-0.64
2/27/05	Daily Average	1353.72	536.44	536.78	280.50	393.34	393.52	389.88	-3.64	392.08	391.78	-0.30	392.15	391.44	-0.71	393.33	392.69	-0.64
2/28/05	Daily Average	1459.40	576.26	577.80	305.34	392.77	393.09	389.36	-3.73	391.53	391.32	-0.21	391.63	390.95	-0.68	392.90	392.33	-0.58